



**PATENT**

Attorney Docket No.: DIVER09010/020001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**In re Application of:  
Short et al.**

Application No.: 09/876,276

Filed: June 16, 1997

## For: HIGH THROUGHPUT SCREENING FOR NOVEL ENZYMES

Group Art Unit: 1652  
 Examiner: P. Tung

CERTIFICATION UNDER 37 CFR § 1.8

I hereby certify that the documents referred to as enclosed herein are being deposited with the United States Postal Service as first class mail on this date AUGUST 24, 1999, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231

LYNN MCKEEWAS  
 (Name of person mailing paper)

Lynn McKeewas 8/24/99  
 Signature Date

Assistant Commissioner for Patents  
Washington D.C. 20231

## **RESPONSE TO RESTRICTION REQUIREMENT**

Sir:

In response to the Requirement for Restriction dated June 24, 1999, Applicants respectfully traverse the requirement for restriction and submit that the requirement is inappropriate.

Applicants have shown, for the first time, that high throughput screening can be utilized for identification of prokaryotic genes encoding various bioactivities. There currently are no reports in the literature of screening and discovery of enzymes in *E. coli* expression libraries by FACS using single cells. In addition, there are no reports of identifying DNA encoding bioactivities screened by expression screening in *E. coli*, for example, using FACS. The present invention provides such methods to allow for extremely rapid screening of viable or non-viable cells to recover desirable activities and the nucleic acid encoding these activities (see pages 10-16 of Applicants' specification).

Accordingly, it would be inappropriate to require Applicants to elect a single species of enzyme to be identified (claim 2) or a single class of prokaryotes (claim 10). The invention is useful for identification of any bioactivity in any prokaryote. Applicants have limited this

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particular method to identification of enzymes and to prokaryotes. The species of enzymes are not patentably distinct since it is the method itself that is patentable and applicable to any bioactivity. Further, the invention method is limited to prokaryotes, and, as discussed throughout the application and in this response, FACS had not been reported previously in *prokaryotes* for *expression screening of enzymes*. Applicants should not be limited to a particular type of extremeophile as listed in claim 10. The method is equally applicable to any species listed within that grouping of organisms.

Applicants understand that a reply to this restriction must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143). For purposes of responsiveness only, Applicants elect esterases and acidophiles. However, Applicants urge the Examiner to please reconsider this species election requirement request a telephonic interview with the Examiner and his supervisor, Examiner Achutamurthy, prior to a decision on this matter.

No fee is deemed necessary in connection with this transaction. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 07-1895. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Date: 8/24/99

  
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